UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/622,331	03/19/2001	Mehmet Kemal Ozkan	RCA 89400	4673

24498 7590 07/25/2007

JOSEPH J. LAKS, VICE PRESIDENT
THOMSON LICENSING LLC
PATENT OPERATIONS
PO BOX 5312
PRINCETON, NJ 08543-5312

EXAMINER	
VAN HANDEL, MICHAEL P	
ART UNIT	**PAPER NUMBER**
2623	

MAIL DATE	DELIVERY MODE
07/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/622,331
Filing Date: March 19, 2001
Appellant(s): OZKAN ET AL.

Joseph J. Opalach
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 6, 2007 appealing from the Office action mailed October 19, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,160,545 Eyer et al. 12-2000

PROGRAM AND SYSTEM INFORMATION PROTOCOL FOR TERRESTRIAL BROADCAST AND CABLE; Advanced Television Systems Committee - Doc A/65; December 23rd, 1997.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims **1-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Eyer et al (US 6160545) in view of Program and System Information protocol for Terrestrial Broadcast and Cable (ATSC, Doc. A/65; December 23rd, 1997).

Claim **1**, Eyer discloses an apparatus (Fig. 1-3) for acquiring packetized program data from at least a first source, comprising a processor (not shown) for acquiring program guide information (IPG data) and for acquiring ancillary information conveyed in hierarchically ordered data tables in said packetized program data, said ancillary information including an initial master program guide with "block_version" is used to indicate change in programming has occurred during the valid lifetime of the current master program guide (Col.13, lines 35-42+) and a processor (170) for determining change and change the program guide as needed.

Eyer does not clearly disclose ancillary information including:

(a) a first version identifier conveyed in a primary data table and updated in response to a version change in at least one of a plurality of secondary tables hierarchically linked to said primary data table, and

(b) a second version identifier conveyed in a secondary data table and updated in response to at least one of a version change in said secondary table and version change in a tertiary table hierarchically linked to said secondary table.

Program and System Information Protocol for Terrestrial Broadcast and Cable now called "ATSC A/65", discloses PSIP data structure (see Fig. 5.1; page 11) with a collection of hierarchically arranged tables, i.e., STT, RTT, MGT (Master Guide Table) and VCT are carried

in Transport Packets with Base PID. Several EIT-i are also part of the PSIP data structure with their PIDs explicitly defined in the MGT in which each EIT-i carries event information for 3hrs time slot, see Fig. 5.2, pages 12-13. "ATSC A/65" further discloses various fields' parameter definition, i.e., version_number, table_defined, etc... in the Bit stream syntax for Master Guide Table (MGT; page 16; table 6.2 pages 16-17) and Bit stream syntax for EIT (page 32, table 6.12; pages 31-33). "ATSC A/65" further discloses that MGT further provides version, size and PID's of all other tables (except STT table) see page 15, § 6.2. "ATSC A/65" further discloses an example to describe the use of:

(a) a first version identifier (version_number) conveyed in a primary data table (MGT) and updated in response to a version change in at least one of a plurality of secondary tables (EIT-i) hierarchically linked to said primary data table (for example at T_1, table EIT-2 needs to be updated then the updated table EIT-2 must be transmitted with a version_number equal to 3 because at time T_0, EIT-2 had a version_number equal to 2. As such, the 1st version identifier (version_number) of the MGT is also updated to be equal to 3 in response to a version change of the updated EIT-2 at time T_1, as indicated at page 17 and page 72-73).

(b) a second version identifier (version_number) conveyed in a secondary data table (EIT-i) and updated in response to at least one of a version change (version_number) in said secondary table (EIT-i) (reads on the decoder monitor the MGT detects a change in the version number of a table, i.e., EIT-2, it assumes that the table EIT-2 has changed and needs to be reloaded, see page 72-73), and a version change in a tertiary table hierarchically linked to said secondary table (since each EIT has either zero or one associated ETT, see Fig. 5.2, page 13, thus a version

change of an associated ETT of an EIT would update the associated ETT, as described in page 12, lines 6-page 13, Fig. 5.2; see version_number of page 34; page 72-page 74).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Eyer with "ATSC A/65" so to take the advantage of the standard for coordinating and combing program guides from plurality of broadcasters (see "ATSC A/65", § D1-Introduction, page 70).

Claim **2**, "ATSC A/65" further discloses wherein said primary data table (MGT) comprises a root database table for indicating version change in hierarchically ordered program guide data tables (see Fig. D.1, page 72 and Fig.D.2; page 74 and page 72-76).

Claim **3**, "ATSC A/65" further discloses wherein said secondary data table (EIT-i) is used to indicate change in multimedia objects comprising objects associated with at least one of (a) broadcast channels, (b) broadcast programs, and (c) User interface controls (see Table D.2 and D.3 at page 75).

Claim **4**, "ATSC A/65" further discloses, wherein said primary data table (MGT) is used to indicate change in at least one of (a) electronic program guide information tables and (b) MPEG compatible program specific information (see pages 82-84).

Claim **5**, "ATSC A/65" further discloses, wherein said ancillary information is a two level hierarchical arrangement (see Fig. D.2, page 74) containing only primary table (master guide table) and secondary tables (EIT-i).

Claim **6**, as discussed in claim 1, "ATSC A/65" further discloses acquiring program guide (MGT) comprising hierarchically ordered data table partitions (EIT-i) and including partitioning information, i.e., version_number, assigned PID, coverage (UTC), coverage (EDT) (see page 31

–33 and Table D.1, page 73), the partitioning information including partition identifiers assigned to individual partitions of said program guide data, (ATSC PSIP clearly discloses that a second set of tables, i.e. EITs whose packet identifiers (PIDs) are defined in the MGT. A third set of table are the ETTs, and similarly, their packet identifiers (PIDs) are also defined in the MGT, see page 71, § D2. in view of that MGT (table) clearly includes PIDs that label the tables, see page 72, lines 1-page 73, "The master Guide Table (MGT) provides general information about all of the other tables that comprise the PSIP standard...; and it gives the packet identifiers (PIDs) that label the tables..." see Table D.1 on page 73 with an representation of a MGT with plurality of EIT coverage times, for example EIT_0 has assigned PID = 123. It is noted that Table 6.2 "Bit Stream Syntax for the MGT" (page 16) discloses table_type_PID (page 18) specified the PID for the table_type (i.e., EIT, page 17). As such, table_type_PID (page 18) corresponds to Appellants' limitation "partition identifiers," because the MGT assigns value of the table_type_PID to individual partition (i.e., EIT or table_type)), wherein the program guide data partitions are dynamically re-partitionable by assignment of the partition identifiers in the partitioning information; and for identifying the re-assigned partition identifiers and for acquiring additional program guide data in response to the identified re-assigned partition identifiers (reads on shifting the listed EIT-i by re-assignment of partition identifiers in the partition information, i.e., EIT-1 become EIT-0, EIT-2 become EIT-1, and of course version_number of EIT-0 is updated by version_number of EIT-1 and so on, see page 73)

Claim 7, "ATSC A/65" further discloses wherein said partition identifiers identify program guide data partitions (see page 30-33 and 79-80) based on at least one of, (a) an area, i.e.,

coverage (UTC) or ETM_location, (b) a broadcast time (start_time), complexity level, and (d) a partition type.

Claim **8**, method claim is analyzed with respect to apparatus claims 1 and 6.

Claim **9**, method claim is analyzed with respect to apparatus claim 2.

Claim **10**, method claim is analyzed with respect to apparatus claim 3.

Claim **11**, method claim is analyzed with respect to apparatus claim 4.

Claim **12**, method claim is analyzed with respect to apparatus claim 5.

Claim **13**, method claim is analyzed with respect to claim 6.

Claim **14**, method claim is analyzed with respect to claims 3 and 10.

Claim **15**, "ATSC A/65" further discloses wherein an object comprises at least one of a video segment, audio segment, text, an icon an HTML document, a menu selectable items, an image windows (see page 83).

Claim **16**, method claim is analyzed with respect to claim 7.

(10) Response to Argument

ARGUMENT 1

Regarding claims **1-5** and **8-12**, the appellant argues that nowhere does the Program and System Information Protocol for Terrestrial Broadcast and Cable (PSIP) describe or suggest a tertiary table hierarchically linked to the secondary table as claimed by the appellants. The appellant further argues that nowhere does PSIP describe or suggest a second version identifier conveyed in a secondary data table and updated in response to ... a version change in the tertiary

table. The examiner respectfully disagrees. The appellant specifically argues that an Extended Text Table (ETT) is not a tertiary table hierarchically linked to an Event Information Table (EIT) and that there is no ranking, or order between the EIT and ETT. The appellant further argues that, although PSIP describes the fact that an EIT is linked to a message in the ETT, the appellants' claim requires a hierarchical linking between the ETT and the EIT tables. The appellant further states that an EIT only includes information to locate a message and does not include information to locate an ETT. The appellant still further argues that PSIP does not describe or suggest a second version identifier conveyed in a secondary data table and updated in response to ... a version change in the tertiary table.

Firstly, the examiner notes that appellants' claims **1** and **8** recite the following language:

> "(b) a second version identifier conveyed in a secondary data table and updated in response to *at least one of*,
>
> a version change in said secondary table, and
>
> a version change in a tertiary table hierarchically linked to said secondary table" (italicized for emphasis).

It is important to note that the USPTO considers "at least one of" language to be anticipated by any reference containing any of the subsequent corresponding elements. Therefore, appellant's argument is moot if PSIP meets the first of the two subsequent limitations.

Document A/65 of the Program and System Information Protocol for Terrestrial Broadcast and Cable (PSIP) by the Advanced Television Systems Committee (ATSC) discloses a

collection of hierarchically arranged tables for describing system information and program guide data. These tables are packetized and multiplexed according to a transport protocol (p. 11, paragraph 1; p. 71, paragraph 3; Fig. 5.1; & Fig. 5.2). PSIP discloses a Master Guide Table (MGT) (primary data table) defining the type, packet identifiers, and versions for all the other PSIP tables in the Transport Stream, except for the System Time Table (STT). The stream also includes at least four Event Information Tables (secondary data tables)(EIT-0, EIT-1, EIT-2, and EIT-3) describing 12 hours of events (TV programs), each with a coverage of 3 hours, and including all of the virtual channels listed in the Terrestrial Virtual Channel Table (TVCT)(p. 2, paragraphs 2, 6). The MGT defines Packet Identifiers (PIDs) and version numbers of the EITs, as shown in Figure 5.1 (p. 11-12, paragraphs 2, 3; p. 15, paragraph 1 of section 6.2; & Fig. 5.1). Besides listing the PIDs for all of the EITs, the Master Guide Table (MGT) also lists a set of PIDs for Extended Text Tables (ETTs). ETTs carry relatively long text messages for describing events and virtual channels. Each EIT has either zero or one associated ETT (p. 12, bottom paragraph & Fig. 5.2).

Table 6.2 describes the Bit Stream Syntax for the MGT. The MGT has a version_number field (first version identifier) containing the version number of the MGT. This number is incremented when any field in the table_types defined in the *for* loop changes or the MGT itself changes (p. 16, Table 6.2 & p. 17, version_number). The EIT and ETT tables identified within the *for* loop themselves have version numbers, defined in the table_type_version_number field (p. 16, Table 6.2). The value of this field is the same as the version_number (secondary version identifier) entered in the corresponding fields of tables and table instances (corresponding EITs and ETTs)(p. 18, table_type_version_number). The version_number field (secondary version

identifier) of an EIT is illustrated in Table 6.12, which describes the Bit Stream Syntax for the EIT (p. 32, Table 6.12). The version_number field is the version number of EIT-i. The version number is incremented when any field in the EIT-i changes. The value of this field is identical to that of the corresponding entry in the MGT (p. 31, version_number). As noted above, this (secondary version identifier) version number change also causes the (first version identifier) MGT version number to change. Thus, the examiner maintains that the version_number field in the EIT is a "second version identifier conveyed in a secondary data table and updated in response to ... a version change in said secondary table," as currently claimed.

In addressing the appellants' argument regarding the second subsequent limitation, the examiner finds that multiple instances of PSIP meet the limitation of "a version change in a tertiary table hierarchically linked to said secondary table," as listed below.

(1) ETT as tertiary table

PSIP discloses that each EIT has either zero or one associated ETT (p. 12, bottom paragraph). Since an ETT describes events in an EIT and is unnecessary without the EIT, the examiner interprets an ETT as being hierarchically linked to its associated EIT. ETTs contain Extended Text Message (ETM) streams, which are optional and are used to provide detailed descriptions of virtual channels (i.e. are associated with TVCT)(channel ETM) and events (i.e. are associated with EIT)(event ETM)(p. 33, paragraph 1 under section 6.6). Fields related to an ETM are contained in both the EIT (ETM_location field)(p. 32, Table 6.12 & ETM_location) and the ETT (extended_text_message)(p. 34, Table 6.14 & p. 35, extended_text_message()).

Thus, the addition or deletion of an ETM would affect the ETM-related fields in both the ETT and the EIT, causing the version numbers in each to change, and further causing the MGT's corresponding table_type_version_number fields and version_number field to change (p. 16, Table 6.2; p. 17, version_number; p. 18, table_type_version_number; p. 31, version_number; p. 32, Table 6.12; & p. 34, version_number, Table 6.14).

(2) ETM as tertiary table

In an alternative interpretation, the ETM meets the limitation of "a tertiary table hierarchically linked to said secondary table." An ETM contains a Multiple String Structure used for text strings. The ETM has a tabular Bit Stream Syntax containing a loop with multiple text strings, similar to the table structures for the other PSIP tables (p. 42, Multiple String Structure & p. 42, Table 6.24). Changes in the ETM affect the version numbers of both the EIT and ETT, further affecting the version number of the MGT. This also meets the limitation of "a second version identifier conveyed in a secondary data table and updated in response to ... a version change in a tertiary table hierarchically linked to said secondary table," as currently claimed.

(3) EIT event as tertiary table

PSIP further discloses that each EIT-k can have multiple instances, each of which contains information for one virtual channel, and each of which is identified by the combination of table_id and source_id. Each EIT-k instance may be segmented into as many as 256 sections. One section may contain information for several events (p. 30, paragraph 2 under Section 6.5).

This is illustrated in the *for* loop shown in the EIT Bit Stream Syntax in Table 6.12. Each loop of the *for* loop contains a tabular list of fields associated with each event (p. 32, Table 6.12). A change in any of these fields would affect the version_number of the EIT, which would further affect the version_number of the MGT. This meets the limitation of "a second version identifier conveyed in a secondary data table and updated in response to ... a version change in a tertiary table hierarchically linked to said secondary table," as currently claimed.

(4) ETT as secondary table and EIT as tertiary table

PSIP further discloses each event in an EIT has an event_id field. This field specifies the identification number of the event described and serves as part of the event ETM_id used in event extended text message (p. 32, Table 6.12 & event_id). PSIP discloses that the event_id field is used to link events with their messages defined in the ETT (p. 79, paragraph 3 under section D3.3). This is illustrated in the ETM-id field of Table 6.14 and the ETM ID structure of Table 6.15 (p. 34, Table 6.14 & p. 35, Table 6.15). Thus, a change in the event_id field of the EIT would cause a change in the ETM_id field of the ETT, resulting in version_number changes in both the EIT and the ETT and further in the MGT. Thus, this meets the limitation of "a second version identifier conveyed in a secondary data table and updated in response to ... a version change in a tertiary table hierarchically linked to said secondary table," as currently claimed.

(5) TVCT or CVCT as secondary table

Similar to the EIT or ETT cases described above, the TVCT and CVCT tables also have version_number fields and are also directly linked to the MGT. TVCT and CVCT tables also have ETM fields (p. 20, Table 6.4 & p. 26, Table 6.8), thereby linking them to the other tables via changes in the ETM as described above.

ARGUMENT 2

Regarding claims **6-7** and **13-16**, the appellant argues that nowhere does the PSIP describe or suggest partition identifiers as claimed by Appellants. The appellants specifically argue that the PSIP does not describe or suggest that partitions are dynamically re-partitionable by re-assignment of the partition identifiers in the partitioning information. The examiner respectfully disagrees.

PSIP discloses packet identifiers (PIDs) for identifying tables in a collection of hierarchically arranged tables describing program guide data (p. 11, paragraphs 1, 2). As shown in Figure 5.1, a base PID with an explicitly defined value is used to identify the STT, RRT, MGT, and VCT tables. Several EITs and ETTs are also part of the PSIP data structures and their PIDs are explicitly defined in the MGT in the table_type_PID field (p. 11, paragraphs 2, 3; p. 12, bottom paragraph; p. 18, table_type_PID; Fig. 5.1, 5.2; p. 71, paragraphs 1, 2 under section D2.). The examiner interprets PIDs to be "partition identifiers" or "cell numbers" as claimed in claims 6 and 13, respectively. PSIP further discloses that each of the EITs lists TV programs (events) for the virtual channels in the VCT. The EITs are sequentially and chronologically organized from EIT-0 to EIT-127. The first table (EIT-0), corresponds to the currently valid list of events. The second table (EIT-1) corresponds to the next time window, and so on. PSIP presents an

example of how the tables in the program guide are updated to remain current. In the example, a broadcast group operating in the Eastern time zone of the U.S. at 15:30 EDT is required to carry EIT-0 describing events from 14:00 to 17:00 EDT plus EIT-1, EIT-2, and EIT-3 covering the next 9-hour interval between 17:00 and 2:00 EDT. At 17:00 EDT, the first table, EIT-0 will be obsolete, while EIT-1 will still be valid. At this time, simply by shifting the listed PID values in the MGT, EIT-1 becomes EIT-0 and EIT-2 becomes EIT-1. Updating tables then becomes a process of shifting the list of PIDs in the MGT and their corresponding version numbers. Updates and/or corrections to the EIT (other than shifting) are signaled by increasing the version number by one (p. 12, paragraph 4). The shifting of PIDs is further illustrated with reference to Table D.1 (p. 73, Table D.1). Before 17:00 EDT, the MGT lists the currently valid PIDS as: 123, 190, 237, 177, 295, and 221. At 17:00 EDT, when table EIT-0 becomes obsolete, the PID list is changed to 190, 237, 177, 295, and 221 (p. 73, paragraph 3). This shifting meets the limitation of "program guide data partitions are dynamically re-partitionable by re-assignment of said partition identifiers in said partitioning information," as currently claimed.

PSIP further discloses that two VCTs may exist simultaneously in a Transport Stream: the current and the next VCT. The use of the next VCT is recommended to give receivers advance notification of the new parameters that become operational during a VCT update. PSIP discloses an example in which a Transport Stream contains a VCT with a version number of 6, which has been operational for 20 hours. At 10:00 p.m., a football game using much more bandwidth will be broadcast, and for this reason, the PIDs will have to be redefined (p. 78, bottom two paragraphs & p. 79, paragraph 1). This also meets the limitation of "program guide

data partitions are dynamically re-partitionable by re-assignment of said partition identifiers in said partitioning information," as currently claimed.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Michael Van Handel

Conferees:

Chris Kelley

Vivek Srivastava

CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

VIVEK SRIVASTAVA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600